

50X1-HUM

FILTER-PRESS ELECTROLYZER

L. M. Yakimenko
A. I. Koloskov

Opisaniye Izobreteniya

(^{SOVIET}PATENT No 54309)
publ. 31 Dec 48

8 August 1950

CONFIDENTIAL

50X1-HUM

CONFIDENTIAL

50X1-HUM

FILTER-PRESS ELECTROLYZER

I. M. Yakimenko
A. I. Koloakov

Filter-press electrolyzers for decomposing water find wide application in plants that work with both atmospheric pressures and also high pressures.

Industry makes great demands upon this kind of plant, since whole series of machine-constructional and repair and reconditioning factories require hydrogen and oxygen, especially in compressed form under 10 to 20 atmospheres of pressure.

The authors of the present invention propose that, in order to seal hermetically the elements of the electrolyzer, these be tightened by the application of a system of independent tie-rods which consists of terminal plates and bolts insulated from the remaining metallic parts.

The enclosed diagram represents a longitudinal cross-section of a filter-press electrolyzer having the usual constructional design, but employing the independent tie-rods of the proposed design.

It is during the assembly of the electrolyzer that the independent system of tie-rods is built for each element of the electrolyzer; that is, the frame of the electrolyzer, the feed channel, and each of the gas channels have a system of tie-rods that is independent of one another and consisting of terminal plates 1, 2, 3 and bolts 4, 5 which are insulated from the plates by means of insulated washers 6 and 7.

Such a tightening system assures a complete hermetic seal of the apparatus in all of its parts without being dependent upon differences in shrinkage in the various gasket linings and packings, when one employs a system of joining the electrolyzer frame with the sections of the feed channel 11 and gas channels 14 with the aid of long iron pipes welded on.

The filter-press electrolyzer for the electrolysis of water under pressure is different in that the elements making up the electrolyzer (that is, the frame of the electrolyzer, the feed channel 14, and the gas channels) are shrunk for the purpose of hermetical sealing by an independent system of tie-rods, which consists of terminal plates 1, 2, 3 and of bolts 4, 5

CONFIDENTIAL

CONFIDENTIAL

-2-

insulated from them (plates) by insulated washers.

(Declared 8 Jan 1937 as No. TP-3314. Published 31 Dec 1938).

-END-

CONFIDENTIAL